66493

SECRET

30 Nov 68 01 16Z

P 300046Z NOV 68
FM NPIC WASHDC
TO RHCOAAA/SAC OFFUTT AFB OMAHA NEB
RHCOAAA/544TH ARTW OFFUTT AFB OMAHA NEB
RUCLFGA/100TH SRW OL 19 MCCOY AFB FLA
RUWJDBA/100TH SRW DAVIS MONTHAN AFB ARIZ
RUEBJRA/NAVRECONTECHSUPPCEN SUITLAND MD
RUEAIIA/CIA WASH DC
RUEOJFA/DIA
RUWBKNA/15TH AF MARCH AFB RIVERSIDE CALIF
RUEFHQA/HQS USAF
BT
S E C R E T CITE NPIC 5140
SAC FOR DIR, DOSR, DISD; 15TH AF FOR DI, DO; 100TH SRW FOR CO, DCOI; HQ USAF FOR AFRDR [redacted] DIA FOR DIAXX-2.
FROM NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER.
SUBJECT: EVALUATION OF DELTA III, TEST 2
1. IMAGE QUALITY: THE IMAGE QUALITY OF THIS MISSION IS GOOD AND COMPARABLE TO THE IMAGERY OF TEST 1. HOWEVER, AS REPORTED IN THE

DISTRIBUTION		
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1	FILE	
2	CABLE SEC.	
	PP&B/RD	25X1
	SECUR.	
3	TSSG/ABD	✓
	[illegible]	
	RRD	
	REPRO	
	AID	
	IEG	
	PROD	
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	WEST	
	EAST	
	M&S	
	PGM	
	IAS	
	DIA-XX4	
	SPAD	
	DIA-AP	
	[redacted]	25X1
	CMX	

PAGE 2 RUEADJU 121 S E C R E T
EVALUATION OF TEST 1, A SLIGHT OUT OF FOCUS CONDITION IS APPARENT AT MAGNIFICATIONS ABOVE 35X. THE RESOLUTION TARGET AT 2803N, 8030W COULD NOT BE LOCATED. THE INTERPRETABILITY OF THIS PHOTOGRAPHY IS GOOD. THE INHERENT HIGHER RESOLUTION OF THE CAMERA SYSTEM PROVIDES MORE DETAILED INFORMATION THAN THE STANDARD "B" CONFIGURATION CAMERA. CLOUD COVER AND HAZE OBSCURE APPROXIMATELY FIVE PERCENT OF THE ENTIRE MISSION.
2. MISSION DATA:
A. DELTA III TEST MISSION TWO WAS FLOWN ON 14 NOV 68 WITH UNITS 17 (AFT LOOKING CAMERA) AND 18 (FWD LOOKING CAMERA).
B. FILM TYPE 3404 WAS USED FOR THE ENTIRE MISSION. PROCESSING WAS ACCOMPLISHED BY NAV RECON TECH SUPPCEN USING MX819 (LOW GAMMA) CHEMISTRY AT 10 FPM AT A TEMPERATURE OF 90 DEGREES FAHRENHEIT.
3. ORIGINAL NEGATIVE:
A. EXPOSURE: ADEQUATE THROUGHOUT FOR BOTH CAMERAS.
B. DENSITY AND CONTRAST: THE DENSITY OF THE FWD AND AFT LOOKING MATERIAL IS GENERALLY THIN TO MEDIUM. THE CONTRAST OF THE IMAGERY FROM BOTH CAMERAS IS LOW.
C. IMAGE DEGRADATIONS:

ADVANCE CY SANITIZED WITH TEXT

PAGE 3 RUEADJU 121 S E C R E T
(1) FWD CAMERA (18): THE FIRST QUARTER OF THE TITLED FRAME 001 IS HEAVILY FOGGED. THERE IS AN ABRUPT DENSITY CHANGE IN THE MIDDLE OF FRAME 025 WHICH APPEARS TO BE PROCESSING INDUCED. A MINUS DENSITY LINE, PARALLEL TO THE MAJOR AXIS, IS LOCATED 0.9 INCH FROM THE NON-TITLED EDGE. THIS WAS APPARENTLY CAUSED BY AN OBSTRUCTION IN THE SLIT APERTURE AND IS PRESENT THROUGHOUT THE MISSION. FRAMES 1061 TO 1070 CONTAIN FOG PATTERNS ASSOCIATED WITH CAMERA SHUTDOWN. IN addition, FRAMES 1061 THRU 1070 CONTAIN A MINUS DENSITY BAND, APPROXIMATELY 0.7 INCH WIDE, SPACED AT A 37.0 INCH INTERVAL. THE BAND STRIKES DIAGONALLY ACROSS THE FILM WEB. BANDING IS PRESENT ON THE TAKE UP SIDE OF THE FILM THROUGHOUT THE MISSION. INTERMITTENT

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MINOR BANDING IS ALSO PRESENT AT THE SUPPLY END. SECONDARY IMAGES, SIMILAR TO THOSE REPORTED IN TEST ONE ARE ALSO APPARENT IN THIS MATERIAL.

(2) AFT CAMERA (17): FRAMES 25 THRU 30 CONTAIN SEVERE LIGHT LEAK INDUCED FOG PATTERNS WHICH DEGRADE THE MAJORITY OF THESE FRAMES. THE FOG PATTERN OF MODERATE DENSITY PRESENT ON TEST ONE IS ALSO PRESENT ON THIS MISSION. THIS PATTERN AFFECTS APPROXIMATELY TWO THIRDS OF THE ENTIRE FILM WEB,

EMINATING FROM THE NON TITLED EDGE TOWARD THE CENTER OF THE FORMAT. THIS PATTERN IS NOTICABLE ON FRAMES 30 TO 100. BOTH OF THESE FOG PATTERNS HAVE A DEGRADING AFFECT ON THE IMAGERY. BANDING IS PRESENT AT THE TAKE UP END OF THE FORMAT. FRAMES 1067 THRU 1070 CONTAIN FOG ASSOCIATED WITH CAMERA SHUTDOWN. THE SECONDARY IMAGES, APPARENT IN THE FWD CAMERA RECORD ARE ALSO PRESENT OF THE AFT CAMERA RECORD.

D. PHYSICAL DEGRADATIONS:

(1) FWD CAMERA (18): FOUR HEAT SPLICES ARE PRESENT IN THE MISSION.

(2) AFT CAMERA (17): ONE HEAT SPLICE IS PRESENT IN THIS MISSION.

E. AUXILIARY DATA: THE SERIAL NUMBER AND INDEX DOT ARE BLOOMED ON BOTH CAMERA RECORDS. THE TIME WORD AND FREQUENCY MARKS WERE NOT IMAGED ON THE MATERIAL FROM EITHER CAMERA. THE FRAME COUNTER FUNCTIONED PROPERLY THROUGHOUT THE MISSION.

F. OTHER: THE FIRST TITLED FRAME ON THE FWD MATERIAL WAS 0001, COUNTER 0026. THE FIRST TITLED FRAME ON THE AFT MATERIAL IS 0004, COUNTER 0029. THE LAST TITLED FRAME ON BOTH THE FWD AND AFT LOOKING MATERIAL IS 1070, COUNTER 1095.

4. POSITIVES:

A. THE PRINTING AND PROCESSING ARE GOOD.

5. COMMENTS:

A. SUBJECTIVE COMPARISONS WERE MADE BETWEEN THE ORIGINAL NEGATIVES OF TEST 1 AND TEST 2 TO DETERMINE THE DIFFERENCES IN IMAGE QUALITY AND/OR INFORMATION CONTENT THAT COULD BE ATTRIBUTED TO THE PROCESSING CHEMISTRIES. TEST 1 WAS PROCESSED IN MX578 (NORMAL GAMMA) AT 11 FEET PER MINUTE AND AT A TEMPERATURE OF 91 DEGREES FAHRENHEIT. TEST 2 WAS PROCESSED IN MX 819 (LOW GAMMA) AT 10 FEET PER MINUTE AND 90 DEGREES FAHRENHEIT. IN ADDITION THE DUPLICATE POSITIVES WERE EVALUATED FOR THE SAME REASONS. THE RESULTS OF THE ORIGINAL NEGATIVE COMPARISIONS ARE PRESENTED BELOW.

(1) AN OVERALL HIGHER CONTRAST IS APPARENT IN THE IMAGERY FROM TEST NUMBER 1.

(2) INFORMATION CONTENT IN THE HIGHLIGHT AND SHADOW AREAS IS SIMILAR; HOWEVER, A SLIGHT PREFERENCE WAS INDICATED FOR THE TEST NUMBER 2 IMAGERY WHICH WAS PROCESSED IN MX819 (LOW GAMMA).

B. THE RESULTS OF THE DUPLICATE POSITIVE COMPARISON ARE

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AS FOLLOWS:
(1) A HIGHER CONTRAST IS APPARENT IN THE IMAGERY FROM TEST NUMBER 1.
(2) MORE FINE DETAIL COULD BE DETECTED IN THE HIGHLIGHT AREAS OF THE TEST NUMBER 2 IMAGERY.
(3) THE INFORMATION CONTENT OF THE MEDIUM AND LOW CONTRAST AREAS IS SIMILAR ON BOTH TEST MATERIALS.
C. FROM THESE OBSERVATIONS IT IS FELT THAT MX819 CHEMISTRY WOULD NOT REDUCE THE INFORMATION CONTENT OF AN OPERATION MISSION AND IN ALL PROBABLITY WOULD ADD TO THE INFORMATION CONTENT OF THE HIGHLIGHT AREAS.
GP-1
S E C R E T

END OF MSG